

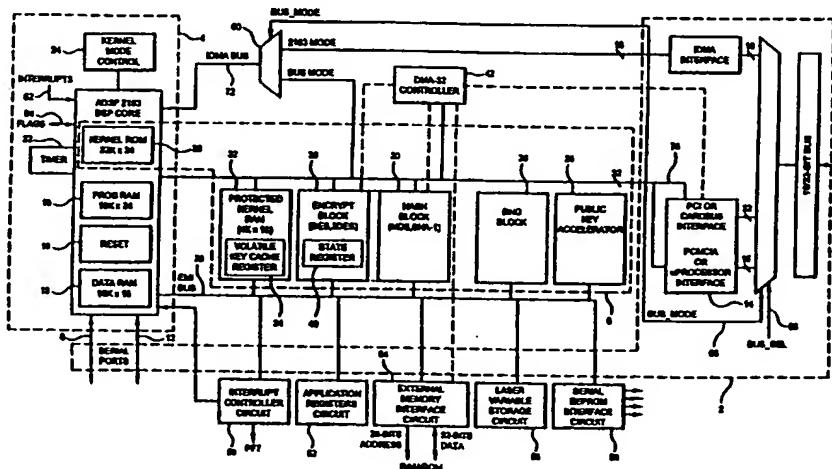
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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>6</sup> :	A3	(11) International Publication Number: WO 99/14881	
H04L 9/06		(43) International Publication Date: 25 March 1999 (25.03.99)	
(21) International Application Number:	PCT/US98/19316	Timothy [US/US]; 9 Birch Lane, Atkinson, NH 03811 (US).	
(22) International Filing Date:	16 September 1998 (16.09.98)	REED, Peter [US/US]; 1 Bancroft Avenue, Beverly, MA 01915 (US).	
(30) Priority Data:		(74) Agent: BODNER, Gerald, T.; Hoffmann & Baron, LLP, 350 Jericho Turnpike, Jericho, NY 11753 (US).	
60/059,082	16 September 1997 (16.09.97)	US	(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
60/059,839	16 September 1997 (16.09.97)	US	
60/059,840	16 September 1997 (16.09.97)	US	
60/059,841	16 September 1997 (16.09.97)	US	
60/059,842	16 September 1997 (16.09.97)	US	
60/059,843	16 September 1997 (16.09.97)	US	
60/059,844	16 September 1997 (16.09.97)	US	
60/059,845	16 September 1997 (16.09.97)	US	
60/059,846	16 September 1997 (16.09.97)	US	
60/059,847	16 September 1997 (16.09.97)	US	
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(72) Inventors; and		With international search report.	
(75) Inventors/Applicants (for US only): KAPLAN, Michael, M. [US/US]; 4 Ocean Drive, Rockport, MA 01966 (US). DOUD, Robert, Walker [US/US]; 4 Redcoat Road, Bedford, MA 01730 (US). KAVSAN, Bronislav [US/US]; 150 Rosemont Drive, North Andover, MA 01845 (US). OBER,		Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.	
(88) Date of publication of the international search report:		22 July 1999 (22.07.99)	

## (54) Title: CRYPTOGRAPHIC CO-PROCESSOR



## (57) Abstract

A secure communication platform on an integrated circuit is a highly integrated security processor which incorporates a general purpose digital signal processor (DSP) (62), along with a number of high performance cryptographic function elements, as well as a PCI and PCMCIA (14) interface. The secure communications platform is integrated with an off-the-shelf DSP so that a vendor who is interested in digital signal processing could also receive built-in security functions which cooperate with the DSP. The integrated circuit includes a callable library of cryptographic commands and encryption algorithms. An encryption processor is included to perform key and data encryption, as well as a high performance hash processor and a public key accelerator (28).

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## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US98/19316

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :H04L 9/06  
US CL :380/25,49,2

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
U.S. : 380/25,49,2

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
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## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,987,595 A (MARINO, JR. et al.) 22 January 1991, abstract, col.3, lines 15-20, col.4, lines 20-49, fig.1	1-15
Y	US 5,631,960 A (LIKENS et al.) 20 May 1997, col.5, lines 39-48, col.6, lines 16-45, col.,7 lines 11-23.	1-15
A	US 5,557,346 A (LIPNER et al) 17 September 1996, fig.1, col.9, lines 11-20, col.13, lines 46-58, col.15, lines 51-59	23-27
A	US 5,623,545 A (CHILDS et al) 22 April 1997, col.4, lines 5-23, col.5, lines 56-67, col.6, lines 1-10	1-20,28-30

Further documents are listed in the continuation of Box C.  See parent family annex.

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Date of the actual completion of the international search

12 APRIL 1999

Date of mailing of the international search report

03 JUN 1999

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A,P	US 5,721,777 A (BLAZE) 24 February 1998, col.2, lines 52-67, col.3, lines 1-18, 31-43, col.4, lines 41-63, col.6, lines 9-43	1-17,23-30

INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US98/19316

B. FIELDS SEARCHED

Electronic data bases consulted (Name of data base and where practicable terms used):

APS,DIALOG

search terms: key recovery, key escrow, hash, smart card, token card, secure kernel, diffie hellman,public key, plural algorithm, encryption algorithm, multiple algorithm, random key, random number generator